



Another invention feature is that an externally inputted data-temperature-dependence can be used to correct data by being combined with a current data-temperature-dependence and that combination replacing the current data-temperature-dependence..

- 5        Another invention feature is that an externally inputted data-temperature-dependence can not be used to correct data by not replacing a current data-temperature dependence because a property of the externally inputted dependence is not within at least one limit.

10       Another invention feature is that if a data-temperature-dependence is externally inputted, the method can further comprise receiving, as an input, the portion of fluid with that dependence, and using that input with the externally inputted data-temperature-dependence for data temperature compensation.

#### BRIEF DESCRIPTION OF THE FIGURES

- 15       FIG. 1 is representative graph illustrating variations in engine oil temperature for an on-highway diesel engine during one operating cycle.

20       FIG. 2 is representative graph illustrating the temperature dependence of a diesel-engine-oil's electrical-impedance at three times in the engine-oil's useful life.

FIG. 3 is representative graph illustrating the temperature dependence of a diesel-engine-oil's viscosity at three times in the engine-oil's useful life.

25       FIG. 4 is a flow chart of an invention embodiment that determines data-temperature-dependence when fluid temperature increases.

~~FIG. 5 is a flow chart of an embodiment of the invention that determines data-temperature-dependence when fluid temperature decreases.~~

30       ~~FIG. 6 is a flow chart of an embodiment of the invention that determines data-temperature-dependence when fluid temperature either increases or decreases.~~

FIG. 7 is a flow chart of another embodiment of the invention that determines data temperature dependence.

FIG. 8 is a flow chart of another embodiment of the invention that provides output when a new temperature dependence is used to temperature compensate data.

FIG. 9 is a flow chart of an embodiment of the invention that combines the determined data temperature dependence with the current data temperature dependence and uses the combined data temperature dependence to correct data for temperature variations.

FIG. 10 is a flow chart of an embodiment of the invention that determines data temperature dependence for two data series at most once each operating cycle.

FIG. 11 is a flow chart of an embodiment of the invention that determines data temperature dependence with determined threshold temperatures and threshold rate.

FIG. 12 is a flow chart of an embodiment of the invention that outputs information about the determined data temperature dependence.

FIG. 13 is a flow chart of an embodiment of the invention that only uses the determined data temperature dependence if it is within a preset limit of a current dependence.

FIG. 14 is a flow chart of an embodiment of the invention that allows data temperature dependence information to be input to the method.

FIG. 15 is a flow chart of an embodiment of the invention that allows data temperature dependence information to be input and combined with the current data temperature dependence.

#### DETAILED DESCRIPTION OF THE INVENTION

The invention relates to a cost-effective method for compensating data relevant to the quality and/or condition of a fluid while in use in a device or process. For the purposes of illustration, the following figures are shown and described.